

Commander Navy Region Southwest

NOTE: This SOP supersedes all previous Inspection Program SOPs.



16 JUNE 2000

PROCEDURES AND GUIDELINES GOVERNING THE CNRSW REGIONAL INSPECTION AND ABATEMENT PROGRAM

General Note: Base Operating Support (BOS) Program Managers shall have their functional areas simultaneously inspected throughout the region. For instance, MWR will be inspected simultaneously at Lemoore, Fallon, Ventura, North Island, etc. Additionally, organizations that are multi-cited (e.g., photo labs) shall also be inspected using the BOS model. Other non-BOS customer activities will be inspected on an individual basis. Workplace Hazard Assessments and ergonomic observations shall be conducted as an integral part of the Inspection Process.

The following guidance and procedures shall be used:

1. **Headquarters** - Schedule PM's and other customer activities that have facilities located at multiple sites, and forward the schedule to respective Site Safety Managers. This should occur no later than the first week of November preceding the forthcoming Calendar Year (CY).
2. **Sites** - Add to the schedule all customer activities not already listed on the schedule and high-hazard areas (Attachment 1 contains instructions for determining if an area should be designated as high-hazard) and return the schedule to Headquarters no later than the second week of November preceding the forthcoming CY. Generally, if you are presently inspecting an activity, add it to the list. Also, add all CINCPACFLT activities within your area of responsibility, even if you do not currently provide inspection services - but do not add any other activity not presently receiving inspections.
3. **Headquarters and Sites** - Consolidate and promulgate an overall inspection schedule. The Inspection Schedule will be promulgated no later than the third week of November preceding the forthcoming CY. The Employee Discomfort Survey Form, Appendix 23-A of OPNAVINST 5100.23 (series), shall be attached to promulgation letters. Additionally, Site Safety Managers should ensure the Employee Discomfort Survey Form is delivered to customers scheduled for inspection at least 5 working days before an inspection commences. The schedule shall be promulgated through the following method:

- Headquarters will forward the schedule to Site Managers, and post it on COMNAVREG SW Internet Homepage under Safety's Section.

- Site Managers further distribute to their customer activities. For record purposes, customer should acknowledge receipt of the schedule (no set format).

- Site Managers shall remind customer activities of forthcoming inspections. The reminder shall be made by written memorandum at least 10 days before the scheduled inspection, and include the Inspection

Customer Satisfaction and Ergonomics Surveys as enclosures. See Attachment 2 for a sample notification letter (and Customer Satisfaction Survey).

The promulgated Inspection Schedule will not normally be revised, but should a modification be required it shall be approved by Headquarters. After revision, the Schedule will again be promulgated using the above procedure.

4. **Sites** - Inspect commands in accordance with regional schedule. See Attachment 3 guidance on conducting inspections and Workplace Hazard Assessments. Hazard Assessments (HA's) shall be conducted on all workplaces belonging to CNRSW BOS functional Program Managers, when government employees (military / civilian-appropriated and non-appropriated) are employed in the workplace. A workplace assessment is not required when only contractor employees are employed in these workplaces. Additionally, HA's are required for workplaces belonging to commands/activities receiving full service via an inter-service support agreement. The following commands are currently receiving full service: PWC, COMTRAPAC, FITCPAC, FLTIMAGCOMPAC, FASOTRAGRU, NAVPACMETOFAC, FISC, DRMO, DEFENSE AUTOMATED PRINTING, NAVY CAMPUS, COMNAVAIRPAC, NUWC, NSWC, FTSCPAC, NTCS, ASW, FLTAREACONPAC, AIRTRAGRUPAC, and SSC (Pacific Coast Highway), FCTCPAC (Fleet Combat Training Center Pacific) and FTC (Fleet Training Center).
5. **Sites** - Prepare NDN's using the Facility Management Assistant (FMA) Program. Site Managers are responsible and shall be held accountable for training sufficient personnel on the FMA Program to ensure inspections are accomplished, as scheduled. All deficiencies noted during inspections (RAC's 1 through 5) will be documented using an NDN. Site managers will be held accountable for the accuracy of all NDN's submitted to Headquarters and customers. NDN's will be submitted transmitted to Headquarters on a daily basis while inspections are ongoing. Before downloading the FMA data to Headquarters, Site Managers shall prepare hard copies of the NDN's. The hard copies will be used to facilitate tracking of abatement actions by the Site Safety Office, and also to forward results of the inspection to the inspected customer activity. NDN's shall be delivered to officials in charge of the workplace inspected within 15 working days of the "observed date" as noted on NDN's. Documentation (no set format) shall be maintained by the Safety Office that the NDN was delivered to the inspected activity within the 15 working-day requirement.
6. **Sites** - After the inspection has been completed, Site Managers shall prepare a cover letter and forward NDN's and administrative information relative to the inspection to inspected activities. See Attachment 4 for sample cover letter. The letter should be forwarded to the inspected activity no later than 3 working days from the date the inspection was completed, but under no circumstances 45 days from the observed date of the first deficiency noted. Cover letters shall be addressed to the official in charge of the activity, or to the local representative of a BOS Function, that was inspected, e.g., Commanding Officer, Officer in Charge, Public Works Operations Officer, Security Officer, etc. A hard copy of the report shall be retained by the Site Manager to facilitate follow-on tracking, and other purposes such as consultation and training.
7. **Headquarters.** Upon receiving the FMA data from Site Safety Offices, Headquarters will:
 - Review NDNs for accuracy and completeness and then import to Master FMA
 - Track all deficiencies until abated
 - Send reminder notices to Sites on NDNs that are not abated in 30 days
 - Provide data, both overall and site specific.
 - Oversight the FMA Program and provide training on its use

8. **Sites.** Receive NDN's reporting corrected deficiencies from Customer Activities. The Site Manager shall ensure these NDN's have all the required information in Section B (abatement action taken, cost, etc.). Also, since COMNAVREGSWINST 5100.11C, Chapter 9, requires management personnel to conduct a follow-up inspection to ensure abatement action reported has actually occurred, Section C of the NDN shall be used to document that follow-up inspections have occurred. Prepare and deliver notification letters to local officials in charge of multi-cited organizations, PM's, and customers that have not abated deficiencies within 30 days (See Attachment 5 for sample letter). Site Managers shall also prepare and deliver Executive Summaries for ACOS's, PM's and officials in charge of multi-sited organizations.

9. **Sites.** After the Site Manager verifies that NDN's contain the required information, the NDN's shall be entered in the regional FMA database. This may be accomplished by requesting Headquarters to E-mail the respective inspection report for the NDN's to be updated. Upon receipt of the inspection report from Headquarters, the current information should be entered in the FMA database, and then E-mailing the report back to the Headquarter's. Hard copies of NDN's shall be retained at Site Safety Offices.

10. **Headquarters.** Shall update the FMA upon receipt of the NDN's, and provide follow-on reports as required.

Attachment 1
Designating High-Hazard Areas

A. Hazards are an inherent part of any process, operation, or facility. Nothing could ever be accomplished should all hazards be removed before performing a given task: no airplane would be flown, car driven, building painted, stock milled, etc. However hazards can be divided into three broad categories:

- (1) Inherent properties or characteristics of the equipment.
- (2) Failures, material or human.
- (3) Environmental stresses.

B. Taking into consideration the above elements, workplaces shall be designated High Hazardous based upon an assessment of potential for injuries, occupational illnesses or damage to Navy property. Assessments conducted shall include, but not be limited to the following factors.

- (1) Any disabling injury associated with the workplace for the past three years.
- (2) Supervisors not enforcing safety rules, standard operating procedures, and training requirements.
- (3) Trends of non-disabling mishaps, injuries, and illnesses.
- (4) Discrepancies noted as part of Industrial Hygiene Workplace Monitoring Plan, Management Evaluations, and other internal and external reports of inspections.
- (5) Number of personnel exposed to the hazards and frequency the hazardous operation/processes are performed by personnel assigned. (i.e., one person welding once a month versus 5 people welding daily).

C. Workplaces should not be designated High Hazardous simply based upon the type of work that is being performed. However and especially in industrial settings, the involvement of the supervisor in the care and attention they afford to people and facilities shall be of utmost concern when conducting the assessment.

D. Workplaces that have been designated as High Hazardous and the rationale (1 – 5 above) shall be continuously reevaluated to determine their suitability for retention of such designation. In all cases, a record shall be maintained that reflects the date the workplace was designated High Hazardous, and conversely when the designation was removed and the reason for removal.

Attachment 2
Sample Inspection Notification Letter

(Date, etc.)

MEMORANDUM

From: Safety Site Manager, _____

To: (Activity to be Inspected)

Subj: OCCUPATIONAL SAFETY AND HEALTH ANNUAL (HIGH-HAZARD) WORKPLACE INSPECTION

Ref: (a) OPNAVINST 5100.23E
(b) COMNAVSWINST 5100.11C

Encl: (1) Customer Satisfaction Survey (Attached)
(2) Employee Discomfort Survey (Appendix 23-A of OPNAVINST 5100.23E)

1. Per references (a) and (b), Occupational Safety and Health (OSH) Specialist(s) on _____ will inspect workplaces under your cognizance. The OSH Specialist(s) conducting the inspections are from our Site Safety Office and not from an outside agency.
2. The surveys included as enclosures (1) and (2) are voluntary. The Customer Satisfaction Survey, enclosure (1), provides you an opportunity to evaluate the inspection and will be used to improve our overall safety program. The Employee Discomfort Survey, enclosure (2), provides your employees the opportunity to identify ergonomic issues that are of concern to them. Based upon the observations of the OSH Inspector and the Employee Discomfort Survey, a more in-depth ergonomic analysis may be conducted. Request you participate in these surveys because they as they are an important element of the OSH Inspection. Survey results may be delivered to the OSH Inspector during his out-brief or delivered directly to the Site Safety Office, at your discretion.
3. For additional information, please contact (name/telephone number/location)

(SITE SAFETY MANAGER'S SIGNATURE)

(Attachment 2 - Enclosure (1))
CUSTOMER SATISFACTION SURVEY
ON THE CONDUCT OF
OCCUPATIONAL SAFETY AND HEALTH
WORKPLACE INSPECTIONS

Intended Recipient: Commanding Officers, Assistant Chiefs of Staff, Program Managers (or there Site Representatives). If delegated, should be signed "by direction" of the intended recipient.

Purpose: To provide feedback to the Regional Safety Manager (COMNAVREG SW Code N22) regarding Customer satisfaction on conduct of OSH Workplace Inspections, and to provide information/data to be used to provide "high-value" Workplace Inspections.

SURVEYS MAY BE TAKEN TO YOUR SAFETY OFFICE FOR DELIVERY TO THE REGIONAL SAFETY MANAGER

CUSTOMER COMPLETING SURVEY: _____ **Date:** _____

CUSTOMER SATISFACTION SURVEY - WORKPLACE INSPECTIONS				Please Check applicable box				
Participation in this survey is voluntary. However, furnishing feedback should improve Safety's overall ability to provide Workplace Inspections that identify violations of safety standards concomitant with customers' needs and expectations.				Excellent	High	Average	Adequate	Unsatisfactory
(Please provide additional comments, if desired, in Remarks Section)								
AFTER RECEIVING YOUR INSPECTION AND HAVING RECEIVED AN OUTBRIEF, PLEASE ANSWER THE FOLLOWING:								
PLEASE RATE THE OVERALL INSPECTION - DID IT MEET WITH YOUR EXPECTATIONS? IF NO, PLEASE INDICATE WHY IN REMARKS SECTION.								
HOW CONFIDENT ARE YOU THAT YOUR PERSONNEL ARE CURRENT IN REQUIRED NAVOSH TRAINING?								
HOW CONFIDENT ARE YOU THAT YOUR PERSONNEL ARE CURRENT IN REQUIRED MEDICAL EXAMINATIONS?								
WAS THE OSH PROFESSIONAL CONDUCTING THE INSPECTION PROFESSIONAL IN THEIR APPROACH?								
DID THE INSPECTION UNDUELY DISRUPT YOUR ORGANIZATION'S ABILITY TO CONTINUE NORMAL OPERATIONS?								
DID YOUR OUTBRIEF (OPTIONAL) SATISFACTORILY ANSWER YOUR QUESTIONS/CONCERNS?								
DO YOU KNOW WHAT ACTIONS YOU ARE REQUIRED TO TAKE TO ABATE DEFICIENCIES IDENTIFIED DURING THE INSPECTION?								
DO YOU KNOW WHAT ACTIONS THE SAFETY OFFICE ARE REQUIRED TO TAKE TO ENSURE DEFICIENCIES ARE ABATED?								
ARE YOU AWARE OF THE AVAILABILITY OF CENTRALIZED FUNDING TO ABATE SAFETY-RELATED DEFICIENCIES?								
Remarks (Please continue on back, if needed):								

Attachment 3
INSPECTION PROTOCOL

The Site Manager is responsible and will be held accountable that inspectors follow, as a minimum, the following procedures when conducting inspections:

1) Obtain a copy and review current workplace Hazard Assessment Forms for areas to be inspected. The Inspector shall take the respective HAF to the area to be inspected, and check its accuracy when inspecting. Note any changes discovered, and then enter these changes to the OSHMAP database. If no changes were noted, then document the review by entering a current date and the inspector's name to the OSHMAP database. If the area to be inspected has not previously received an Assessment, conduct and document an Assessment following the guidance of Attachment 6.

2) Review the last Workplace Inspection Report for the area(s) to be inspected, and note any outstanding NDN's. Be sure to inspect these areas during the inspection, and issue a repeat deficiency if needed. Also, note a few deficiencies that have been reported as abated by management, and inspect to determine if abatement action reported as having been taken, has in fact been accomplished.

3) As a minimum, check the following when conducting the inspection:

a. On a random basis, spot check personnel for proper care, usage, and storage of PPE as appropriate, e.g., ask them to don and/or doff, store, turn-in, etc. If the individual cannot demonstrate adequate knowledge of how it's supposed to be done, then the individual should be cited, by name, on the NDN for inadequate training. If several people cannot demonstrate adequate knowledge, then cite the supervisor, by name, on the NDN for failure to adequately train their personnel.

b. Conduct qualitative assessments of training, i.e., ask questions to determine if personnel can demonstrate adequate knowledge of their required safety training. It stands to reason, that the inspector should be familiar with the CNRSW Lessons Plans – otherwise how can they ask the right questions. Spot check records of training to determine if personnel have received required training and qualification/certification for specific job, i.e., driver license, respiratory protection cards/ etc. If personnel cannot demonstrate adequate knowledge of required training, then cite them for not being adequately trained. If numerous personnel in a workcenter cannot demonstrate adequate knowledge, then cite the supervisor for failure to ensure adequate training of personnel. In all cases, specifically state on the NDN the reason for the citation, e.g., "SN Sailor did not know where to obtain a MSDS for hydraulic fluid, a chemical he uses daily in the performance of his duties", etc.

c. Collect the Employee Discomfort Surveys from the Activity. The surveys should be retained at the Site Safety Office. Identify ergonomic risk factors for work-related musculoskeletal disorders (WMSDs). These risk factors are workplace conditions that pose a biomechanical stress to a worker's body as a consequence of posture and force requirements, work/rest regimens, repetition rate or other similar factors. Examples of ergonomic risk factors of WMSDs include:

(1) Tasks involving one or more of the following: repetitive and prolonged static activities, forceful exertions, awkward postures, excessive vibration from power tools or vehicles, and workstations lacking adjustability.

(2) Physiological stress induced by heat, cold or other environmental extremes, shift work and extended work schedules.

Familiarity with the checklists that are provided as Appendix B of Chapter 23 of OPNAVINST 5100.23E will help the inspector with identifying these risk factors. Should, in the opinion of the inspector, the risk factor associated with a given process or operation clearly indicate that a WMSD may occur the words "ergonomic analysis required" shall be annotated in the "Remarks" field of the "Operation Tab" of the OSHMAP Hazard Assessment Data Entry Screen (Refer to the Ergonomic SOP regarding action required when this annotation is made).

4) Spot-check deficiencies from previous inspection to make sure abatement action has actually occurred. COMNAVREGSWINST 5100.11C, Chapter 9, requires management personnel to conduct follow-up inspections, spot check NDN's received to ensure this is occurring.

5) Inspectors shall review Hazard Assessments with each Workplace Supervisor as a routine measure when conducting inspections.

Attachment 4
SAMPLE LETTER1
LETTERHEAD NOT REQUIRED

(INSERT LOCAL CONTROL CODES)
(INSERT DATE)

MEMORANDUM

From: Site Safety Manager, (Your Command)

To: (Activity Inspected)

Subj: REPORT OF ANNUAL (HIGH HAZARD, IF APPROPRIATE) OCCUPATIONAL SAFETY AND HEALTH (OSH) WORKPLACE INSPECTION

Ref: (a) OPNAVINST 5100.23E
(b) CINCPACFLTINST 4000.4
(c) COMNAVREGSWINST 5100.11C

Encl: (1) OPNAV 5100/12's (NAVOSH Deficiency Notices)
(2) Abatement Action Instruction Sheet (click to see)
(3) List of Areas Inspected
(4) Workplace Hazard Assessments

1. An Annual (High-Hazard, if appropriate) Navy Occupational Safety and Health Workplace Inspection was conducted on areas under your cognizance on (Insert Dates). The inspection was conducted to meet the requirements of reference (a) through (c), to inspect for hazardous conditions, unsafe work practices and violations of standards. Enclosures (1) through (4) document the inspection and contain specific action to abate cited deficiencies.

2. All workplaces under your cognizance were included within the scope of the inspection. Enclosure (1) lists deficiencies cited during the inspection. Enclosure (2) contains detailed reporting requirements. Enclosure (3) lists the building numbers associated with the area(s) inspected. Enclosure (4) lists the Workplace Hazard Assessments and associated Personal Protective Equipment (PPE) requirements. Utilize the assessments to designate work conditions and / or work areas requiring PPE. Retain in the workplace as certification of your Hazard Assessment.

3. Required Reports. The following required reports, addressed in enclosure (2), are reemphasized below for your attention:

a. A WRITTEN REPORT MUST BE SUBMITTED TO THE SAFETY OFFICE WITHIN 10 DAYS of receiving this memorandum verifying that:

(1) NDN's have been posted in the near vicinity of the identified hazard, and

(2) Hazard Assessments have been distributed to their respective workplaces.

b. Each NDN's shall be annotated per enclosure (2) and returned within 30 days of the observed date to the Safety Office.

4. Point of contact is (insert name) at ext. (insert telephone number).

(SIGNATURE OF SITE MANAGER)

ABATEMENT ACTION INSTRUCTIONS

A. Abatement Action and Documentation Procedures

(1) **A WRITTEN REPORT MUST BE SUBMITTED TO THE SAFETY OFFICE WITHIN 10 DAYS of receiving this memorandum verifying that:**

(a) **NDN's have been posted in the near vicinity of hazard the hazard (deficiency) they identify.**

(b) **Hazard Assessments have been distributed and are being maintained in their respective workplaces.**

(2) Posting the Navy Occupation Safety and Health Deficiency Notice (NDN). Upon receipt of this report, copy all NDN's that have a Risk Assessment Code of 1, 2 and 3, and post the copy in the immediate vicinity of the respective cited hazard if not already posted.

(3) Initial Reporting Requirement. Management shall take prompt action to correct the hazard and within 30 days of the date of the NDN (reflected on the NDN form as the observed date), return a copy of the NDN to the Safety Office with the following information:

- When a deficiency has not been fully abated: Section B of the NDN shall indicate the status of the hazard including whether or not the hazard has been corrected and specific abatement action taken. Each NDN submitted to the Safety Office must contain a description of the abatement action being taken, including estimated cost and completion date. While it is understood that some deficiencies may take longer than 30 days to abate, it is expected that most deficiencies shall be abated within 30 days unless significant reasons otherwise dictate.

- When a deficiency has been fully abated: Section B of the NDN shall indicate completed abatement action taken and actual cost, with date of completed action; or process discontinued or worksite vacated. Management should then inspect and verify that the abatement action has actually been accomplished as reported on the NDN and document the inspection, sign and date, Section C of the NDN. The NDN shall then be submitted to the Safety Office. Section B and C must be completed. Incomplete reports will be returned for corrective action.

(4) Follow-on Reports: After the initial 30-day report has been made, and there are deficiencies that have not been fully abated, follow-on reports shall be made upon completion of each cited deficiency. As soon as a deficiency has been abated, supervisory personnel shall document abatement actions taken in Section B of the NDN.

Section B must contain a closeout statement, indicating: completed abatement action and actual cost, with date of completed action; or process discontinued or worksite vacated. Management should then inspect and verify that the abatement action has actually been

accomplished as reported on the NDN and document the inspection, sign and date, Section C of the NDN. The NDN shall then be submitted to the Safety Office. Section B and C must be completed. Incomplete reports will be returned for corrective action.

(5) Interim Controls. When immediate abatement of any deficiency is not possible, interim controls to control the hazard must be enforced until the deficiency can be abated. Interim controls specific to the cited deficiency have been annotated on each NDN. Management shall ensure the interim control is accomplished, and kept in force until the deficiency has been abated. Interim controls shall not be modified without permission of the Safety Office.

Attachment 5
SAMPLE 30 DAY LETTER

(INSERT LOCAL CONTROL CODES)
(INSERT DATE)

MEMORANDUM

From: Site Safety Manager, (Your Command)

To: (Activity Inspected)

Subj: ANNUAL OCCUPATIONAL SAFETY AND HEALTH (OSH) WORKPLACE INSPECTION
STATUS

Ref: (a) Form NAVOSH Deficiency Notice (NDN) 5100/12 Control Number _____
(b) COMNAVREGSWINST 5100.11C
(c) OPNAVINST 5100.23E

1. Reference (a) reported to you a safety deficiency identified during an annual OSH workplace inspection conducted on an area under your cognizance. Reference (b) and (c) require you to annotate Section B of the NDN with actions taken to abate the deficiency and return it to the Safety Office within 30 days of the deficiency's observed date. THIS OFFICE HAS NO RECORD THAT YOU HAVE COMPLIED with the sited safety regulations.
2. Please expedite submission of the required report, immediately contact your local Regional Safety Site Office Manager.

(SIGNATURE OF SITE MANAGER)

Attachment 6
CONDUCTING HAZARD ASSESSMENT
OPERATING PROCEDURE

Ref: (a) 29 CFR 1910 Subpart I
(b) 29 CFR 1910.120, Appendix B
(c) OPNAVINST 5100.23(Series)
(d) CNRSWINST 5100.11(Series)

This document is intended only as a guide to assist CNRSW safety inspectors in evaluating workplace hazards and determining if the selected Personal Protective Equipment (PPE) is appropriate for protecting employees from recognized or identified hazards. Site Managers are responsible for ensuring the accuracy of Hazard Assessments conducted by inspectors.

Workplace hazards should be identified to a specific process or operation. In some cases, when processes or operations have a commonality of hazard, you may make a common hazard assessment. For example: operating a woodworking table saw, radial arm saw, circular saw, disk sander and lathe, which produce common hazards, such as dust, chips, splinters and noise would be common to "woodworking operations or construction operations". The process or operation might be identified as "woodworking, carpentry, or construction". The common PPE requirements may be eye/face protection, head protection, foot protection, body protection, hearing protection, hand protection and in some cases respiratory protection.

The important thing is to identify the hazard(s) and determine if the PPE is appropriate.

Some tips that might help to make your job easier are:

- * Review reference (a) for guidance on conducting workplace surveys and PPE selection.
- * Review reference (b) for guidance on selecting appropriate body protection
- * Review references (c) and (d) for specific guidance on Navy program requirements.
- * Review the Industrial Hygiene reports for the workplaces you are going to evaluate prior to doing the inspection. Make a list of what hazards to look for in each workplace.
- * Look for hazard warning signs and stickers in the workplace.
- * Ask to see all portable electric and hand operated tools.
- * Talk to the workers...they best know how they do their job and will be happy to identify hazards for you.

Identify PPE requirements and document PPE deficiencies. Use the PPE selection guides to assist you in determining if the PPE is appropriate. PPE should be selected to ensure a greater level of protection than the minimum required to protect the worker(s) from identified hazards. Remember, the PPE listed here is only a guide. If in doubt, consult the appropriate ANSI Standard or your cognizant Industrial Hygienist.

Eye/Face Hazards

PPE Selections:

1. **Cover Goggles:** Cover goggles are protective devices intended to fit the face immediately surrounding the eyes in order to shield the eyes from a variety of hazards. While they are primary protectors and may be used alone, they may also be used in conjunction with other protectors. There are two specific types of cover goggles; **direct ventilation** and **indirect ventilation**. Both types may be used to protect from impact hazards such as: chipping, grinding, machining, woodworking, sawing, sanding, masonry work, riveting,

Drilling and chiseling. Both types may also be used in: furnace operations, pouring, casting, hot dipping, gas cutting and gas welding. Only cover goggles with **indirect ventilation** shall be used for acid and chemicals handling and degreasing type operations.

2. **Spectacles:** Are typically a "prescription eyeglass or plano style" protective device with removable or non-removable sideshields. Spectacles are commonly used as a primary protector against impact and optical radiation hazards and may be used in conjunction with other protectors. Typical uses would be for protection from chipping, grinding, machining, masonry work, riveting and sanding, furnace operations, pouring, casting, hot dipping, gas cutting, gas welding and torch soldering operations.

3. **Cup Goggles:** Cup goggles are protective devices intended to fit the face immediately surrounding the eyes in order to shield the eyes from a variety of hazards. While they are primary protectors and may be used alone, they may also be used in conjunction with other protectors. There are two specific types of cup goggles; **direct ventilation** and **indirect ventilation**. Both types may be used to protect from impact hazards such as: chipping, grinding, machining, sawing, sanding, masonry work, riveting, drilling and chiseling. Both types may also be used in: furnace operations, pouring, casting, hot dipping, gas cutting and gas welding. Only cup goggles with **indirect ventilation** shall be used for acid and chemicals handling, degreasing, woodworking, buffing and general dusty conditions.

4. **Plano:** An "eyeglass type" of protective device having non-prescription lenses and fixed sideshields. May be used to protect from impact hazards such as: chipping, grinding, machining, sawing, sanding, masonry work, riveting, drilling and chiseling. May be used during torch soldering operations. Most often used as "visitors eyewear".

5. **Prescription Safety Eyewear:** Refers to both spectacles and goggles having prescription corrective lenses.

6. **Cover Welding Goggles:** Cover welding goggles with indirect ventilation are protective devices designed to provide optical radiation protection and contain both clear and special filter lenses. They are to be worn when performing gas-welding, cutting or torch brazing.

7. **Chemical Goggles:** Cover chemical goggle with indirect ventilation is protective devices designed to prevent splashing of chemicals into the eyes. They are flexible and have cushioned cups around the eyepieces to ensure a snug fit to the face.

8. **Welders Helmet/Handshield:** Welders helmets and hand shields are fitted with special filter lenses and are designed specifically for use during electric arc welding operations. They shall be worn or used over primary eye protection. They provide protection from optical radiation directly related to filter lens density.

9. **Face Shield:** Face Shields are not eye protection devices! They are designed to protect the face from flying debris and liquid splashes. Face shields shall be worn over primary eye protection when the situation warrants eye protection. Face shields are normally attached to an adjustable headband and are worn in such a manner to extend the entire width of the face and below the chin in order to protect the entire face.

Head Hazards

PPE Selections:

1. **Cranial:** Used mainly by aviation personnel while performing maintenance or servicing aircraft on the flight line or in a hanger and when participating in flight operations.
2. **Bump Cap:** Designed to prevent injury from striking head on low overhead structures; i.e., low hanging pipes in utility spaces or working under vehicles. Similar to a hard hat but does not provide adequate protection from impact blows from falling objects.
3. **Hard Hat:** Designed to provide varying degrees of protection from impact and electrical hazards. They are divided into the following types and classes:

Impact Types:

Type I - helmets intended to reduce the force of impact from a blow only to the top of the head. May have a full visor not less than 1 and 1/4 inches wide.

Type II - helmets intended to reduce the force of impact resulting from a blow which may be received off center (front, side, and back) or to the top of the head. May or may not have full visor.

Electrical Classes:

Class C - not intended to provide protection against contact with electrical conductors.

Class G - intended to reduce the danger of contact exposure to low voltage conductors. Class G helmets are proof-tested at 2200 volts but does not mean full protection is provided at that voltage.

Class E - intended to reduce the danger of contact exposure to high voltage conductors. Class E helmets are proof-tested at 22,000 volts but does not mean full protection is provided at that voltage.

An example of a general purpose hard hat would be: Type I Class C.

An example of a special purpose hard hat would be: Type II Class C

An example of a general or special purpose hard hat with low voltage protection would be: Type I (or II) Class G.

An example of an electrical utility hard hat with high voltage protection would be: Type I (or II) Class E.

Foot Hazards

Safety footwear PPE may come in a "shoe or boot" style, depending upon the application. For example: a supervisor who only enters the sheet metal shop area infrequently, may wear a dress style safety shoe. Whereas the sheet metal shop employee may wear a leather safety boot to afford full protection from falling objects (impact to the toes) and cuts to the tops and sides of the foot from the sharp edges of the sheet metal.

PPE Selections:

- 1. Safety shoes/boots with built-in protective toe box:** Designed to protect from heavy falling objects. This footwear has a built-in protective toe box of either steel or kevlar and the uppers may be made from a variety of materials, but should be appropriate to work environment.
- 2. Semi-conductive shoes/boots:** Designed to dissipate static electricity and should be worn on conductive surfaces such as wet concrete, metal decks, carbon-impregnated surfaces, wet terrain, conductive linoleum and conductive tiles.
- 3. Molders boots with built-in protective toe box:** Designed to prevent hazardous material from falling inside the boot and for quick removal of the boots, if necessary, to minimize injury. Primarily used by molders and may be used by welders and LOX plant workers. Also provides protection from heavy falling objects.
- 4. Electrical safety shoes/boots with built-in protective toe box:** Designed to protect against electric shock when performing work on live circuits not exceeding 600 volts, under dry conditions. These shoes/boots provide only partial protection against electrical hazards and must be utilized with other protective measures.
- 5. Metatarsal safety footwear:** Designed to prevent or reduce the severity of injury to the metatarsal (upper foot) and toe areas from heavy falling objects.
- 6. Sole puncture resistant safety footwear:** Designed to reduce the hazards of puncture wounds caused by sharp objects that could penetrate the sole of the footwear.
- 7. Rubber footwear:** Designed to protect workers from exposure to water and/or hazardous liquids in wet locations. May be chemical resistant.

Body Hazards

PPE Selections:

Selections for Hazardous Waste Operations and Emergency response. See reference (b) for complete requirements:

- 1. Level A:** To be selected when the greatest level of skin, respiratory and eye protection is required.
- 2. Level B:** When the highest level of respiratory protection is necessary, but a lesser level of skin protection is required.
- 3. Level C:** When the concentration(s) and type(s) of airborne substance(s) is known and the criteria for using air-purifying respirators are met.
- 4. Level D:** A work uniform affording minimum protection, used for nuisance contamination only.

Selections for other body hazard exposures:

- 1. Welders leathers:** Typically leather vests or aprons designed to protect the frontal areas and arms from exposure to hot slag and sparks during welding operations.
- 2. Tyvek fabric apparel:** Typically used for "lab coats" and "coveralls (may include hood)". Have many uses where moderate protection from splash, spray and high dust levels is required. Have excellent resistance to snags, tears, punctures, and many chemicals.
- 3. Polyethylene, Vinyl, Neoprene and natural rubber aprons:** Can provide protection against a wide range of hazards, including exposure to fats, oils, acids, chemicals, liquids, punctures, cuts and snags. May be used in food processing, laboratories, plating, metal fabrication, chemical processing, printing, foundries, battery reclamation and general clean-up work. The selection of a protective apron must be based on the manufacturer's recommendation for the specific hazard exposures.

Noise Hazards

Hearing protection devices will be selected to protect against quantified noise hazards, based on noise level surveys conducted by a certified Industrial Hygienist. The selection and fitting of insert type hearing protection devices is the responsibility of the I.H., audiologist, occupational health physician or other competent personnel under their supervision.

All hearing protection devices are assigned a Noise Reduction Rating (NRR), indicating the level of noise reduction in decibels (dB). Hearing protection with a NRR to reduce the noise exposure to slightly below 84 dB should be provided. Too much NRR may be hazardous! Only those hearing protection devices identified in Appendix 18-A of reference (c) are authorized for use. If the use of hearing protection devices other than those listed is desired, activities must follow the requirements of Appendix 18-A for approval.

PPE Selections:

- 1. Insert type earplugs:** A molded rubber flanged type of device inserted into the ear to reduce the passage of sound into the ear canal. This device is sized to fit the individual in order to afford maximum NRR protection. May be single or triple flanged.

2. Insert type earplug (disposable): A foam insert type of device designed to be rolled (squeezed) and inserted into the ear. The device then expands, filling the ear and reducing the passage of sound into the ear canal. Typically used for visitors to noise hazard areas or for short duration noise exposures to employees.
Note: These devices are for single use only and must be disposed of after each use.

3. Ear caps or bands: Earplugs or caps that are attached to a band that fits under the chin or behind the neck. May or may not be an insert type of device.

3. Earmuffs: Designed to fit over the outer ear, reducing passage of sound into the ear canal. Must contain the sound reducing material (usually foam) on the inside of the cup.

Note: These items used alone only provide "single" hearing protection for exposures to noise levels of 85 dB to 104 dB. When noise levels exceed 104 dB, or 140 dB "impact", "double" hearing protection must be used, i.e.; earplugs and earmuffs.

Hand Hazards

Selecting the appropriate hand protection can be fairly complex. Consult with the Industrial Hygienist for recommendations and/or obtain a glove buyer's guide from a glove distributor such as Ansell Edmont. The glove buyer's guide will go into detail how to select the appropriate hand protection and the distributor can be extremely helpful also.

The first factors in glove selection should depend on the application the glove will be used for and the protection required. There are four basic categories of gloves:

- a. Chemical Resistant Gloves - help provide protection in a wide range of chemicals as well as from nuisance hand injuries.
- b. General Purpose Gloves - for any general-purpose use where there is a need for protection against nuisance hand injuries (cuts, snags, punctures and abrasion). Not for use in chemicals and liquids.
- c. Product Protection Gloves - provides a barrier between the hands and product to help protect the worker from the product and the product from the worker.
- d. Special Purpose Gloves - for applications where gloves are needed to help protect hands working in cold temperatures and intermittent handling of hot objects up to 400 degrees F.

Supported vs. unsupported gloves:

- a. Use unsupported gloves in those Chemical Resistant applications where need for tactile sensitivity and dexterity are required.
- b. Supported gloves can be used in General Purpose or Chemical Resistant applications where help is required in protection against snags, abrasion, cuts and punctures.

Materials:

- a. Natural latex - for light to heavy duty use against a variety of acids, solvents and chemicals.

- b. (NBR) Nitrile Buna Rubber - protection from a wide variety of solvents, and harsh chemicals, as well as resistance to snags, cuts, punctures, and abrasion.
- c. Neoprene - resists acids, oils, grease and caustics and a variety of chemicals.
- d. PVC - used in general purpose and chemical resistant gloves to provide abrasion resistance as well as protection from oils, acids and caustics.
- e. PVA - for hazardous chemical applications where most other gloves have failed. Resistance to all strong organic solvents.

Selecting the Right Glove: (Procedure is from Ansell Edmont glove catalog)

a. For Chemical Resistant Use:

1. Choose the glove with the highest rating from the Chemical Degradation Guide, found in the Glove Buyer's Guide, for the chemical and physical conditions involved.
2. Select unsupported gloves for extra dexterity sense of touch. If cut, snag, puncture or abrasion resistance are important, pick a fabric-lined style.
3. Select the pattern design to provide the grip required - diamond embossed, pebble, sand patch, bisque, recessed diamond or patterned, dipped or smooth.
4. Choose the glove length by depth to which the arm will be immersed, and to protect from chemical splash.
5. Select thin gauge gloves for jobs demanding sensitive touch and high flexibility. If greater protection or durability is wanted, choose a heavy duty style.
6. Choose the glove size or sizes that will ensure optimum wear, dexterity, working ease, comfort and employee satisfaction.

b. For General Purpose and Special Purpose Use:

1. Determine the physical conditions to which the glove will be subjected (temperature, cutting, puncturing, abrasion, etc.).
2. Consider the glove features required to perform the work (dexterity, protection, grip, liquid repellency, insulation, etc.).
3. Choose the style that provides the best combination of features and resistance to physical conditions.

- c. The selected glove shall then be worn in the work environment to determine if it is suitable. If the glove is determined to not be suitable (it deteriorates too fast or snags, tears or punctures too easily, etc.) another glove shall be selected and tested.

- d. Documentation is required to show how you determined the glove selection.